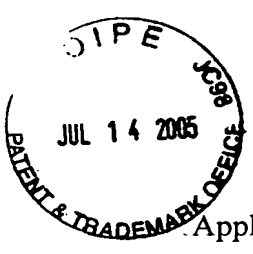


Ifw



Attorney Docket 089367-0123

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Tomohiro SAKAI  
Title: DISK ARRAY DEVICE  
Appl. No.: 10/781,709  
Filing Date: February 20, 2004  
Examiner: Unassigned  
Art Unit: 2651

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

**Mail Stop AMENDMENT**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to applicant in order to comply with applicant's duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

### **TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits. Therefore, no fee is believed to be due.

### **STATEMENT**

The undersigned hereby states in accordance with 37 C.F.R. § 1.97(e)(1) that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of this Information Disclosure Statement.

### **RELEVANCE OF EACH DOCUMENT**

Documents B2-B5 were cited in an office action in a corresponding Japanese application. Document B1 is in English. Document B2 corresponds to B1.

A translation of a portion of a Japanese office action that issued May 24, 2005 with respect to the counterpart Japanese patent application is provided below.

(Claims 1, 2, 4 through 7, 9, 10, 12, and 13) Cited Examples 1 and 2.

Cited Example 1 (see especially the description of the second embodiment) describes an array input/output device wherein a decommissioning determination device having a counter for each disk is provided in an array controller; when a disk device is operated, a counter is incremented if access succeeds and is decremented if an error subject to retry occurs; and when the counter goes below a specific value, the corresponding disk device is decommissioned.

Furthermore, Cited Example 2 (see especially the description relating to Figure 2 and Figure 3) describes a disk array device wherein the value assigned to each magnetic disk in a cumulative timer table is incremented if a fault leading to data transfer delays, such as an anomaly of the medium, occurs in the magnetic disk, and is decremented while [the disk] is operating normally, and when the cumulative value exceeds a threshold, the corresponding disk device is disconnected.

Both of these involve technology relating to disk array fault handling, and combining the techniques of Cited Example 1 with the techniques of Cited Example 2 is a matter which could be easily conceived of by a person skilled in the art.

(Claims 3 through 7, 11, and 14) Cited Examples 1 through 3

Cited Example 3 describes a technique whereby, in a paired disk device forming a mirroring arrangement, the number of errors is retained for each disk, and the magnetic disk device with the lowest number of errors is selected for access.

Applying the technique of Cited Example 3 to the disk array devices of Cited Examples 1 and 2 to arrive at the arrangement of Claim 3 of the present application is found to be something which could be easily conceived of by a person skilled in the art.

No reasons for rejection have been discovered as of now for inventions according to claims other than the claims indicated in this notification of reasons for rejection. If any reasons for rejection are newly discovered, a notification of reasons for rejection will be issued.

#### List of Cited Literature

1. Japanese Unexamined Patent Application Publication H11-194898
2. Japanese Unexamined Patent Application Publication 2001-256000
3. Japanese Unexamined Patent Application Publication H08-202501

#### Record of Prior Art Literature Search Results

- Fields searched      IPC 7th Edition  
G06F 3/06-3/08  
G06F 12/00

- Prior art literature

1. Japanese Unexamined Patent Application Publication 2002-149500 (describes a disk array device wherein a counter is incremented upon each occurrence of a fault recovered from in a specific period of time, and the disk device is determined to have failed when the counter exceeds a threshold value)

This Record of Prior Art Literature Search Results does not constitute a reason for rejection.

Applicant's statements regarding the Japanese Office Action are based on a translation that applicant's representative obtained. These statements should in no way be considered as an agreement by applicant with, or an admission of, what is asserted in the Japanese office action.

English language translations or English language counterparts of documents B3-B5 are not available; however, English language abstracts are provided herewith. The absence of translations or English language counterpart documents does not relieve the PTO from its duty to consider the submitted documents (37 CFR §1.98 and M.P.E.P. § 609).

Applicant respectfully requests that the listed documents be considered by the Examiner and formally be made of record in the present application and that an initialed copy of Form SB/08 be returned in accordance with MPEP §609.

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicant hereby petitions for any needed extension of time.

Respectfully submitted,

Date July 14, 2005

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: <u>July 14, 2005</u>  <i>(use as many sheets as necessary)</i>		Application Number	10/781,709
		Filing Date	02/20/2004
		First Named Inventor	Tomohiro SAKAI
		Group Art Unit	2651
		Examiner Name	Unknown
Sheet	1	of	1
		Attorney Docket Number	089367-0123

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	B1	6,330,620	B1	UCHIDA	12/11/2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B2	JP	11-194898		UCHIDA	07/21/1999		
	B3	JP	2001-256000		TSURUMAKI	09/21/2001		
	B4	JP	08-202501		SAITO	08/09/1996		
	B5	JP	2002-149500		IKEDA	05/24/2002		

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.